REMARKS

Claims 19-20 and 23-24 are currently withdrawn as directed to non-elected subject matter. Claim 22 has been cancelled. Claim 1 is currently amended. No new matter is added and support for the amendments can be found throughout the specification an in the original claims. Upon entry of this amendment, Claims 1-18, 21 and 22 will be under examination.

Claim Rejections - 35 U.S.C. § 112, second paragraph

In the Non-Final Office Action mailed March 17, 2008, the Examiner rejected claim 22 under 35 U.S.C. § 112, second paragraph as indefinite. In an effort to advance prosecution, Applicant has canceled Claim 22 without prejudice or disclaimer thereby obviating the rejection.

Claim Rejections - 35 U.S.C. § 102

In the Non-Final Office Action mailed March 17, 2008, the Examiner rejected claims 1, 2, 10-13, 17, 18 and 21 under 35 U.S.C. § 102(b) as being anticipated by Fick (U.S. Patent No. 5,945,100) or Lu *et al.* (Biotechnol. Bioeng. 2000, 70(5):470-483, hereinafter "Lu"). Applicants respectfully submit the amendments to the claims and the following arguments overcome the rejection.

The Examiner contends that Fick discloses a tumor delivery vehicle that can be made of water soluble polymers that include cinnamoyl groups that may be photochemically cross-linked. The Examiner further contends that such polymers may be used to encapsulate bioactive agents in a semipermeable membrane to form a microcapsule. Fick does not teach the formation of a microcapsule. In contrast, Fick teaches formation of hydrogels. Fick states at Column 7, lines 50-55:

> "The polymeric material which is mixed with cells or other materials for injection into the body should preferably form a hydrogel. A hydrogel is defined as a substance formed when an organic polymer (natural or synthetic) is cross-linked via covalent, ionic, or hydrogen bonds to create a three-dimensional open-lattice structure that entraps water molecules to form a gel."

The Examiner cites Column 8, lines 51-54 as evidence that Fick teaches formation of microcapsules. The cited section of Fick references the process of U.S. Patent No. 4,352,883 in

which a biological substance is encapsulated in alginate by cross-linking the alginate polymers through exposure to a multivalent cation. Fick suggests, based on alginates ability to cross-link upon exposure to multivalent cations, that alginate may be useful in the formation of hydrogels. However, Fick does not teach that polymers comprising a plurality of cinnamoyl groups may be used to form a microcapsule. The Examiner also cites Colum 12, lines 64-65 as evidence that Fick teaches formation of micocapsules. The cited section does not teach the formation of microcapsules from polymers comprising a plurality of cinnamoyl groups, but instead cites concentrations at which bioactive agents may be added to the hydrogel. Therefore, Fick does not teach all of the present claim limitations and fails to anticipate the currently claimed invention.

The Examiner contends that Lu teaches microcapsules that comprise semipermeable polymer membrane that is used to encapsulate cells, and that the polymer comprises alginate and two types of polyallyamine that are modified by α-phenoxycinnamylidene acetyl chloride. Claim 1 has been amended to specify that the cinnamoyl groups form cross-links upon exposure to radiation at wavelengths that cause minimal, reduced or no damage to the bioactive substance. Support for the amendments can be found, for examples, at page 9, lines 3-7 and page 33, lines 11-16 of the specification as originally filed. Lu discloses the use of cinnamoyl groups that require cross-linking by exposure to radiation at wavelengths from 300-325 nm. As noted in the specification at page 4, lines 14-17, the manufacture of microcapsules disclosed in Lu, has been found to result in damage to bioactive substances when the monomers are cross-linked using radiation at wavelengths from 300-325 nm. Lu does not teach a polymer comprising a plurality of cinnamoyl groups that can be cross-linked at wavelengths that cause minimal, reduced or no damage to the bioactive substance. Therefore, Lu does not teach all of the current claim limitations and fails to anticipate the currently claimed invention.

For at least the foregoing, Applicants submit the rejections under 35 U.S.C. § 102(b) have been overcome and respectfully requests they be withdrawn.

Claim Rejections - 35 U.S.C. § 103(a)

In the Non-Final Office Action mailed March 17, 2008, the Examiner rejected claims 1-18 and 21 and 22 under 35 U.S.C. § 103(a) as unpatentable over Lu in view of Chia *et al.* (Tissue Engineering, 2000, 6(5):481-495, hereinafter "Chia") or Sun *et al.* (Biomat. Artif. Cells Art. Org. 1987, 15:1483-496, hereinafter "Sun"). Applicants respectfully submit the amendments to the claims overcome the rejection.

Claim 1 has been amended to specify that the cinnamoyl groups form cross-links upon exposure to radiation at wavelengths that cause minimal, reduced, or no damage to the bioactive substance. Lu teaches that the cinnamoyl groups used in the polymer require cross-linking with radiation at a wavelength from 300-325 nm. As noted above, the microcapsules manufactured according to the process disclosed in Lu have been found to damage the encapsulated bioactive substance when cross-linked at 300-325 nm (page 4, lines 14-17). Therefore, as discussed above, Lu fails to anticipate the presently claimed invention. Further, because Lu, Chia, or Sun fail to identify that using cinnamoyl groups that require cross-linking at 300-325 nm can result in damage to the bioactive substances, one of ordinary skill in the art would not have been motivated to modify the polymers of Lu with cinnamoyl groups that form cross-links upon exposure to radiation at wavelengths that cause minimal, reduced, or no damage to the bioactive substances. Therefore, it would not have been obvious to one of ordinary skill in the art to derive the presently claimed invention based on the teaching of Lu, Chia, or Sun, either alone, or in combination.

As noted above, Claim 22 has been canceled without prejudice or disclaimer. For at least the foregoing, Applicant respectfully submit the rejection under 35 U.S.C. § 103(a) has been overcome, and respectfully requests that it be withdrawn.

CONCLUSION

The foregoing is submitted as a full and complete response to the Non-Final Office Action mailed March 17, 2008, and early and favorable consideration of the claims is requested. If the Examiner believes any informalities remains in the application that may be corrected by Examiner's amendment, or there are any other issues which can be resolved by telephone interview, a telephone call to the undersigned agent at (404) 572-2447 is respectfully solicited.

No fees are believed to be due in connection with this response. The Commissioner is authorized to charge any underpayment of fees to Deposit Account No. 11-0980.

Respectfully submitted,

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